

CLAIMS

- 1 1. A digital camera, comprising:
2 a housing;
3 a digital optical sensing apparatus mounted within said housing, said digital
4 optical sensing apparatus sensing optical images;
5 a storage medium for storing digital optical images captured by said digital optical
6 sensing apparatus;
7 an acoustic sensor capable of sensing human speech;
8 a speech reduction apparatus coupled to said acoustic sensor, said speech
9 reduction apparatus converting human speech sensed by said acoustic sensor to a
10 symbolic text form; and
11 a controller which stores said symbolic text form in said storage medium in a
12 relationship associated with a captured digital image.

- 1 2. The digital camera of claim 1, wherein said controller comprises a programmable
2 processor executing a control program for controlling the operation of said digital camera.

- 1 3. The digital camera of claim 2, wherein said speech reduction apparatus comprises
2 a speech reduction algorithm embodied as a plurality of instructions executable on said
3 programmable processor.

- 1 4. The digital camera of claim 1, wherein said speech reduction apparatus converts
2 said human speech sensed by said acoustic sensor to an intermediate symbolic form
3 comprising a symbolic representation of phonemes, said intermediate symbolic form
4 being subsequently reduced to natural language text by a separate apparatus.

1 5. A method of operating a digital camera, comprising the steps of:
2 capturing a digital image of an object of interest with optical sensing apparatus of
3 said digital camera;
4 recording human speech of a user in said digital camera, said recording step being
5 performed substantially contemporaneously with said step of capturing a digital image;
6 rendering said human speech in a symbolic text form using speech reduction
7 apparatus within said digital camera; and
8 storing said symbolic text form in a relationship associated with said captured
9 digital image.

1 6. The method of operating a digital camera of claim 5, wherein said step of
2 rendering said human speech in a symbolic text form converts said human speech to an
3 intermediate symbolic form comprising a symbolic representation of phonemes, said
4 intermediate symbolic form being subsequently reduced to natural language text by an
5 apparatus separate from said digital camera.

1 7. The method of operating a digital camera of claim 5, wherein said step of
2 rendering said human speech in a symbolic text form is performed by a programmable
3 processor executing a speech reduction program.

1 8. The method of operating a digital camera of claim 7, wherein said programmable
2 processor further executes a control program for controlling the operation of said digital
3 camera, and said step of rendering said human speech in a symbolic text form is
4 performed by said programmable processor in the background when said control program
5 is otherwise unoccupied.

1 9. A program product for controlling the operation of a digital camera, said program
2 product comprising a plurality of processor executable instructions recorded on signal-
3 bearing media, wherein said instructions, when executed by at least one programmable
4 processor within said digital camera, cause the camera to perform the steps of:

5 capturing a digital image of an object of interest with optical sensing apparatus of
6 said digital camera;

7 recording human speech of a user in said digital camera, said recording step being
8 performed substantially contemporaneously with said step of capturing a digital image;

9 rendering said human speech in a symbolic text form using speech reduction
10 apparatus within said digital camera; and

11 storing said symbolic text form in a relationship associated with said captured
12 digital image.

1 10. The program product for controlling the operation of a digital camera of claim 9,
2 wherein said step of rendering said human speech in a symbolic text form converts said
3 human speech to an intermediate symbolic form comprising a symbolic representation of
4 phonemes, said intermediate symbolic form being subsequently reduced to natural
5 language text by an apparatus separate from said digital camera.

1 11. A method of recording information with digital images, comprising the steps of:
2 capturing at least one digital image of a respective object of interest with optical
3 sensing apparatus of a digital camera;
4 recording at least one segment of human speech of a user in said digital camera,
5 each segment corresponding to a respective digital image, said recording step being
6 performed substantially contemporaneously with said step of capturing the respective
7 digital image;
8 rendering said at least one segment human speech into at least one corresponding
9 segment of symbolic text form using speech reduction apparatus within said digital
10 camera;
11 uploading said at least one digital image and said at least one segment of symbolic
12 text to a digital image formatting apparatus; and
13 formatting said at least one digital image and said at least one segment of
14 symbolic text for viewing by a user using said digital image formatting apparatus,
15 wherein each said segment of symbolic text is formatted for viewing in a human readable
16 form associated with its corresponding digital image.

1 12. The method of recording information with digital images of claim 11, wherein
2 said step of rendering said at least one segment of human speech in a symbolic text form
3 converts said human speech to an intermediate symbolic form comprising a symbolic
4 representation of phonemes, and wherein said step of formatting said at least one digital
5 image and said at least one segment of symbolic text for viewing comprises reducing said
6 intermediate symbolic form to natural language text.

1 13. The method of recording information with digital images of claim 11, wherein
2 said digital image formatting apparatus is a general-purpose digital computer executing a
3 digital image formatting program.

1 14. The method of recording information with digital images of claim 11, wherein
2 said step of formatting said at least one digital image and said at least one segment of
3 symbolic text comprises formatting for output on paper, wherein formatted text is printed
4 on paper with a corresponding digital image.

1 15. The method of recording information with digital images of claim 11, wherein
2 said step of formatting said at least one digital image and said at least one segment of
3 symbolic text comprises formatting for viewing from an output screen of a digital device,
4 wherein formatted text is displayed on said output screen with a corresponding digital
5 image.

1 16. A program product for formatting data from a digital camera for output, said
2 program product comprising a plurality of processor executable instructions recorded on
3 signal-bearing media, wherein said instructions, when executed by at least one
4 programmable processor of a digital formatting system, cause the digital formatting
5 system to perform the steps of:

6 receiving at least one digital image and at least one segment of symbolic text from
7 a digital camera apparatus, each said at least one segment of symbolic text representing a
8 respective segment of human speech of a user of said digital camera and corresponding to
9 a respective digital image, each said at least one segment of symbolic text being a
10 rendering of said respective segment of human speech of a user into a symbolic text form;
11 and

12 formatting said at least one digital image and said at least one segment of
13 symbolic text for viewing by a user using said digital image formatting apparatus,
14 wherein each said segment of symbolic text is formatted for viewing in a human readable
15 form associated with its corresponding digital image.

1 17. The program product for formatting data of claim 16, wherein said at least one
2 segment symbolic text comprises human speech in an intermediate symbolic form
3 comprising a symbolic representation of phonemes, and wherein said step of formatting
4 said at least one digital image and said at least one segment of symbolic text for viewing
5 comprises reducing said intermediate symbolic form to natural language text.

1 18. The program product for formatting data of claim 16, wherein said step of
2 formatting said at least one digital image and said at least one segment of symbolic text
3 comprises formatting for output on paper, wherein formatted text is printed on paper with
4 a corresponding digital image.

5 19. The program product for formatting data of claim 16, wherein said step of
6 formatting said at least one digital image and said at least one segment of symbolic text
7 comprises formatting for viewing from an output screen of a digital device, wherein
8 formatted text is displayed on said output screen with a corresponding digital image.